Listing of the Claims:

1. (Currently Amended) An apparatus suitable for use in investigating multi-phase biological tissue histology~~, which apparatus comprises~~ comprising:

a trans-ductally deployable probe mounted on ~~mounting~~ a periodically displaceable body of at least one tactile sensing device, said periodically displaceable body having an excitation frequency bandwidth in the range of from 1 Hz to 500 KHz, a maximum stroke length of less than 1 mm and a displacement force in the range from 0.01 N to 1 N[[,]];

~~said displaceable body being provided with~~ a displacement device having a displacement controller configured to control ~~for controlling~~ at least said excitation frequency of the periodically displaceable body[[,]]; and

~~said displaceable body being coupled to~~ a displacement monitoring device and a displacement force monitoring device, both coupled to the periodically displaceable body and configured to monitor ~~for monitoring the~~ a viscoelastic response of said biological tissue to periodic compression by said displacement force applied to said tissue by periodic displacement of said periodically displaceable body.

2. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein said probe is configured ~~formed and arranged so as~~ to be trans-ductally deployable in at least one of a ~~the~~ genito-urinary tract in males and females, a ~~the~~ gastro-intestinal tract, a ~~the~~ respiratory tract, and within an ~~the~~ arterial and venous vasculature system.

3. (Currently Amended) The ~~An~~ apparatus according to claim 1 ~~for trans-urethral deployment,~~ wherein ~~and~~ said probe, when used for trans-urethral deployment, has a diameter of not more than 5mm.

4. (Currently Amended) The ~~An~~ apparatus according to claim 3 wherein said probe has a length of from 1 to 3 cms.

5. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein said periodically displaceable body is actuated via at least one of: a pressurized fluid circuit, a mechanical drive system, and a piezoelectric actuator.

6. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein said probe is mounted at the distal end of an elongate~~, trans-ductally deployable,~~ deployment device.

7. (Currently Amended) The ~~An~~ apparatus according to claim 6 wherein said periodically displaceable body is actuated by a proximally mounted motor.

8. (Currently Amended) The ~~An~~ apparatus according to claim 6 wherein said periodically displaceable body is actuated by a distally mounted motor drivingly connected to the displaceable body via said elongate deployment device.

9. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein said periodically displaceable body comprises at least one micro-piston actuated via a pressurized fluid circuit.

10. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein said periodically displaceable body comprises:

at least one shoe;

~~mounted on~~ a piezoelectric device mounted on each of the at least one shoe; and

~~sandwiched between said shoe and~~ a stress detector element sandwiching the piezoelectric device against the at least one shoe, the stress detector element configured to monitor~~, formed and arranged for monitoring~~ strain on the piezoelectric device and ~~therein, thereby to~~ determine the force applied by said periodically displaceable ~~displacement~~ body to the biological tissue ~~contacted thereby in use of said apparatus~~.

11. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein the periodically displaceable body has a ~~at least one of the area of the~~ force-transmitting surface ~~of the displaceable body, used to apply force to the tissue in use of the apparatus, and~~ and is configured such that an area of the surface and a ~~the~~ magnitude of the force applied ~~to~~ by the periodically ~~the~~ displaceable body[[,]] is ~~formed and arranged so as to be~~ user-adjustable.

12. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein said displacement device incorporates an actuator whose position is controlled whereby a signal of the position of ~~in the control signal for~~ said actuator may be used to monitor displacement of the periodically displaceable body.

13. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein a force detector is incorporated in at least one of the ~~displaceable body~~ displacement controller, the displacement device ~~force source~~, and the periodically displaceable body ~~itself~~.

14. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein the~~is provided a~~ displacement controller is configured to operate the periodically displaceable body at a ~~formed and arranged for application of selected ones of~~ plurality of different excitation frequencies.

15. (Currently Amended) The ~~An~~ apparatus according to claim 1 wherein the~~is provided a~~ displacement controller is configured to control ~~formed and arranged for controlling~~ each of said excitation frequency and stroke length.

16. (Currently Amended) The ~~An~~ apparatus according to claim 1 further comprising:[[,]] ~~which includes~~

a position control device configured to change a ~~for changing the~~ position of the periodically displaceable body within a body duct, [[in]] during use of the apparatus, so as to successively bring [[it]] the periodically displaceable body into contact with a plurality of

different duct surface portions.

17. (Currently Amended) The ~~An~~ apparatus according to claim 1 further comprising: ~~which includes~~

a processing unit configured to process ~~formed and arranged for processing~~ displacement and displacement force data and ~~so as to~~ generate at least one of dynamic modulus and Amplitude Ratio.

18. (Currently Amended) A method for producing a histological profile of a biological tissue adjacent a duct comprising the steps of:

a) providing an apparatus according to claim 1;

b) transductally inserting the probe of said apparatus to bring the periodically displaceable body of said probe into contact with a ~~the~~ ductal surface of said biological tissue at a plurality of positions across said ductal surface;

c) subjecting said periodically displaceable body to a periodic displacement at an excitation frequency bandwidth of from 1 Hz to 500 kHz, a maximum stroke of less than 1 mm and a displacement force in the range of from 0.01 N to 1 N ~~so as to periodically force in the range of from 0.01 N to 1 N so as to~~ thereby periodically compressing ~~compress~~ said biological tissue at said contact positions across said ductal surface;

d) monitoring the viscoelastic response of said tissue at each of said ~~surface~~ contact tissue positions to the compressing ~~compression~~ by said periodically displaceable body; and

e) generating a profile of the viscoelastic response of the tissue across said ductal surface.

19. (Currently Amended) The ~~A~~ method according to ~~as claimed in~~ claim 18 further comprising ~~which includes the~~ a preliminary step of:

determining values of displacement frequency, displacement stroke length and displacement force suitable for histological profiling of a ~~the~~ type of biological tissue to be

profiled.

20. (Currently Amended) The ~~A~~ method according to ~~as claimed in~~ claim 18, wherein ~~said displacement body is contracted with a~~ said plurality of tissue surface contact positions are~~, which plurality is~~ distributed axially and/or circumferentially of said duct.

21. (Currently Amended) A method of diagnosing a condition manifested by a histological abnormality in biological tissue adjacent a body duct comprising the steps of:

a) providing an apparatus according to claim 1;

b) trans-ductally inserting the probe of said apparatus to bring the periodically displaceable body of said probe into contact with a ~~the~~ ductal surface of said biological tissue at successive ones of a plurality of positions across said ductal surface;

c) subjecting said periodically displaceable body to a periodic displacement at an excitation frequency bandwidth of from 1 Hz to 500 kHz, a maximum stroke length of less than 1mm and a displacement force in the range of from 0.01 N to 1 N thereby periodically compressing ~~so as to periodically compress~~ said biological tissue at said contact positions across said ductal ~~surface~~ surface;

d) monitoring the viscoelastic response of said tissue at each of said tissue ~~surface~~ contact positions to the compressing ~~compression~~ by said periodically displaceable body;

e) generating a profile of the viscoelastic response of the tissue across said ductal surface; and

f) comparing said generated viscoelastic response profile with viscoelastic response profiles of such tissue having known histological characteristics.